16. (currently amended) The process of claim 15, wherein the sense amplifier is operable to compare current flowing through a selected memory cell with a reference current to produce a resistance state of the selected memory cell.

17. (currently amended) The process of claim 13, further comprising forming an equipotential generator coupled to the plurality of word lines and operable to set voltage levels in the first resistive cross point memory cell array to substantially prevent or divert selected parasitic currents from interfering with a ~~the~~ sense current from the first memory cells.

18. (currently amended) The process of claim 17, wherein the equipotential generator is operable to set an input node of a ~~the~~ common isolation diode of the first and second arrays ~~each group~~ of memory cells to avoid ~~from~~ feedback from unselected word lines representing a common array voltage.

REMARKS

Applicant expresses appreciation to the Examiner for consideration of the subject patent application. This amendment is in response to the Office Action mailed May 18, 2004. Claims 12-18 were rejected. The claims have been amended to eliminate any ambiguities in proper antecedents, and to clarify the relationship of the elements and function steps in the claims, and were not made for the purpose of limiting the claims.

Claims 1-18 were originally presented. Claims 1-11 were cancelled from the application. Claims 12-14, 16-18 have been amended. Claim 15 is unchanged.

Claim Rejections - 35 U.S.C. § 102

Claims 12-18 (including independent claim 12) were rejected under 35 U.S.C. § 102(b) as being anticipated by Kleveland et al. (U.S. 6,631,085) (hereinafter "Kleveland"). In order to most succinctly explain why the claims presented herein are allowable, Applicant will direct the following remarks primarily to the originally presented independent claim 12 with the understanding that once an independent claim is allowable, all claims depending therefrom are allowable.

Claim 12 has been amended to better explain the relationship of the word lines shared between the first and second planes of memory cells. Each pair of memory cells in adjacent

planes are connected together by a common word line, which is the only word line connecting that pair of cells. Thus, as shown in Figure 5 of the present application, each pair of memory cells 108a and 108b are connected by a common word line102 that is the only word line connecting that pair of cells. Thus, the number of word lines used in a memory matrix is about half of what would otherwise be the case.

The common word lines are shared by using opposing unidirectional diodes, such as diodes 110a and 110b shown in Figure 5. Since the polarity of diodes 110a and 110b are opposite each other, current will only flow through memory cell 108a or 108b, but not both, depending on the direction of current flow. This arrangement enables pairs of memory cells 108a and 108b to share a common word line 102. When current is flowing through one of a pair of memory cells, the diode associated with the other cell in the pair prevents any current from flowing through the other cell. Accordingly, not only do the cell pairs share the same word line, but the opposing diode pairs prevent any current flow through the memory cell that is not to be accessed at the time.

To the contrary, the invention in the Kleveland patent requires that the all of the memory cells, including associated diodes, be oriented in the same direction, as shown in Figure 3. The Kleveland invention is concerned with avoiding leakage currents caused by prior art back-to-back diode stacking, as shown in Figure 2. This result is accomplished by orienting the diodes in the same direction, which is quite different from the present invention.

Moreover, the prior art back-to-back diode stacking shown in Figure 2 of Kleveland is different from the present invention. In the Kleveland patent, column 4, lines 43-51, it is stated that the type of prior art opposing diode arrangement shown in Figures 1 and 2 is undesirable in large memory matrices because of the large leakage current. Thus, Kleveland teaches away from the structure of the present invention, in which no such large leakage current occurs.

The present invention utilizes an opposing diode arrangement for the purpose of sharing a common word line. The opposing diode structure is embodied in circuitry where the leakage problem has been mostly eliminated. This is done by applying the same bit line voltage to all bit lines, effectively biasing all the cells on the unselected rows to a ground potential or to float at a common voltage. This action isolates the bit line currents from one another, effectively blocking

most of the leakage current that might otherwise flow through secondary paths. See page 9, lines 4-19, and page 3, lines 31-34.

As described above, the Kleveland patent does not disclose the structure or process of the current invention. Accordingly the rejection of independent claim 12 should be withdrawn and the claim should be allowed. Rejection of the dependent claims 2-11 should be reconsidered and withdrawn for at least the reasons given above with respect to the independent claim. The dependent claims, being narrower in scope, are allowable for at least the reasons for which the independent claims are allowable.

Therefore, Applicant respectfully submits that claims 12-18 are allowable, and urges the Examiner to withdraw the rejection.

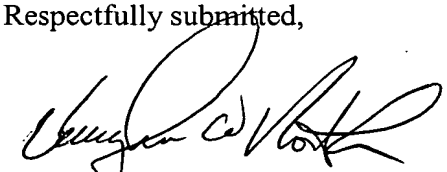
CONCLUSION

In light of the above, Applicant respectfully submits that pending claims 12-18 are now in condition for allowance. Therefore, Applicant requests that the rejection be withdrawn, and that the claims be allowed and passed to issue. If any impediment to the allowance of these claims remains after entry of this Amendment, the Examiner is strongly encouraged to call Vaughn North at (801) 566-6633 so that such matters may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fee or to credit any overpayment in connection with this Amendment to Deposit Account No. 08-2025.

DATED this 18th day of August, 2004.

Respectfully submitted,



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